

THE
AGRICULTURAL MUSEUM:

OMNIS FERET OMNIA TELLUS. VIRG.

Vol. II.] Georgetown, (Ca.) Oct. 1811. [No. 4.]

Extract of a letter from a gentleman in Baltimore to the
Editor.

Henry Jackson, esq. has lately returned to this city from Dublin, and has brought with him all the best and most recent publications, in England and Ireland, on Agricultural Improvements, &c. He has also brought with him a variety of machines or implements for labor-saving economy. Among which are the following:

1. Two different ploughs: one for oxen, in stony or stubborn soils; and another, with three coulter, that seems well calculated for ploughing in our corn fields, and clearing them of weeds, grass, &c.
2. A farmer's car, of the best construction, and which, in Ireland, is preferred on a farm to a cart.
3. A straw-cutting machine, made at Birmingham, of better workmanship than any I have seen here; that cuts very fast, by turning a crank with the hand; being much more expeditious and easy than the common kind.
4. A machine for chopping or cutting turnips or potatoes for feeding cattle.
5. A washing machine; on a much better and more portable construction, than any I have seen here.
6. A mangling machine, for doing up linens, calicoes, cottons, &c. which, he informs me, saves a great deal of labor.

It is understood, that it was entirely *pro bono publico*, that Mr. Jackson brought these implements over with him ; and that any individual who chuses, is at liberty to take models from them.

RURAL ECONOMY.

[From Clater's "Every Man his own Cattle Doctor"]

The best method of drying a cow of her milk.

This is a subject, with which every grazier ought to be well acquainted. It is frequently found necessary to dry cows of their milk, at all times of the year. in order that they might the better be fed for the shambles. Some cows are more difficult to dry than others, by reason of their giving so large a quantity of milk, and the gross habit of body peculiar to some beasts.

Without great care and management, these will be liable to the down fall, either in the udder or foot ; or otherwise, it may terminate in some fatal inflammatory disease.

Cows that are apt to milk themselves, are difficult to dry : they should therefore be dried early in the spring, while at dry meat. Others may be dried either in the pasture or in any other place. Such cows as are in the pasture give a considerable quantity of milk, and are in good condition, ought to be fetched into a fold yard over night, and from three to four quarts of blood taken from them. The next morning give the following drink.

RECIPE.

Take roach allum, in powder, six ounces ; (if a large beast, eight ounces ;) bole armenick, in powder, two ounces ; mix and put them in a pitcher, then pour a pint and a half of boiling ale upon the ingredients. Afterwards, add one pint of good vinegar ; and give when new milk warm.

The cow must be milked clean at the time the above drink is given ; and after two hours, may be turned into

her pasture. About four days after, if her udder appears hard and full, let her be fetched out of the pasture, milked clean, and the drink repeated as before.

This is generally sufficient to dry any cow of milk; but as some cows give so much milk that it renders them very difficult to dry, it is therefore frequently found necessary to repeat the drink and milking every fourth day, for three or four times, before they can be completely dried. Or, the following drink may be given, which is equally useful as the former, if not more efficacious.

RECIPE:

Take red wine tartar, in powder, one pound; treacle, four table-spoonfulls: Put them in a pitcher, and pour a quart of boiling water with them. Stir the whole together, and give it when milk warm.

This is a powerful drink for the purpose, as well as the former; yet, in order to gain a little more time, (as some persons are very impatient) it may be necessary to change the drinks, provided they be of equal efficacy; another formula is therefore subjoined.

RECIPE

Take allum, in fine powder, six ounces; red wine tartar, in powder, half a pound; bole armenic, in powder, two ounces; treacle, four table-spoonfulls: mix and put them in a pitcher, and pour a quart of boiling water upon the ingredients. Then add a pint of good vinegar, and give to the cow new milk warm.

These are two excellent drinks, as well as the former, and are equally powerful (if not more so) in drying up the milk. They may be repeated in the same manner as the first. If one of those drinks were given every month, during the summer, it would prove a mean of preventing downfall in the udder.

GRAND WESTERN CANAL

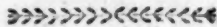
New-York, Aug. 17, 1811.—To save expense in the execution of this Great National Work, a work of the highest interest to the people of New York, Albany, and particularly to the Landholders, Farmers, and Merchants of the western parts of the state, Mr. Fulton has invented a machine for digging or removing earth by means of horses, or a steam engine. A steam engine of eight horse power, and rendered portable, will do the work of 150 men. The wages of 150 men may be estimated at 120 dollars a-day; 4 men can attend the steam engine 12 hours, whose wages will be, \$ 6

Two cords of wood, 2

Total expense, \$ 8

This gives an economy of 112 dollars a-day; or, for 300 days, which the machine would work in a year, the saving in expense would be 33,600 dollars; and five of these machines, which would cost about 30,000 dollars, would economise 168,000 dollars a-year.

Engines of this kind, which expedite work, and save great expense, are of the utmost importance in this young country, where laborers are scarce and the wages high. If, by any kind of machinery, the great expense of cutting canals can be diminished, canals will be multiplied in proportion to the facility of making them, and the nation will be benefited to the amount of millions a-year.



AGRICULTURAL REPORT,

1811.



MASSACHUSETTS.

Indian Corn.—Rather more than middling crop. The drought in June was inauspicious, but the rains and intense heat which succeeded, filled the ear very well.

Rye.—The mildew, which is so destructive to the circulation of the juices, has been observed but in a few instances. The crop generally will be fine.

Barley.—A heavy crop.

Hay.—On dry ground, rather light, for want of rains, in the early part of the season. The intervals will produce good burthen. It has been cured in excellent order.

Potatoes.—As well as culinary productions, generally, never in a season came in more plentifully or more genuine.

Apples.—The canker worm, as well as the caterpillar, made great ravages in the northern and eastern parts of the state; and considering there was so abundant a crop last year, there will be but an indifferent quantity of cider the present.

The after seed will be abundant, particularly if the frost is stayed. Vines have been very productive. On the whole, the husbandman will have abundant occasion to rejoice, and be thankful, for the abundance of the fruits of the earth.

NEW YORK.

Hay—Very abundant; along the Hudson, and south of the Highlands, the crop considerably injured by the rains in the season of getting in.

Wheat and Rye.—Of good quality and abundant in produce. In securing the crops, the same remarks apply as in hay, tho' in a much less degree. On the whole, the products of these articles were never, probably, so great in any former year. The grain uniformly good and very heavy.

Flax.—Almost uniformly good.

Oats.—In general good; but the quantity sown much less than in some former years.

Maize—From present appearance, promises a great crop. The stalks are universally heavy; and the earing abundant.

Potatoes.—Perhaps hardly middling, injured by the excessive wetness of the early part of the season.

Fruit.—Abundant, beyond any example for twenty years past. Every kind of fruit bearing tree, shrub, or plant, from the hardy forest walnut to the diminutive products of the garden or the field, have been loaded with fruit.

Buckwheat.—Promises well at present; but this is a crop of little consequence in this region; being but little cultivated, except on the failure of wheat and rye.

The second crops of grass are very abundant, and our pasture fields were never better clothed, throughout a whole season.

AGRICULTURAL.

Letter to the Philadelphia County Society for the Promotion of Agriculture and Domestic Manufactures.

GENTLEMEN,

Our farmers in Pennsylvania have hitherto been too much in the practice of depending on the annual decay of weeds, arising in a course of years from their worn out fields, for the principal source of nourishment to their crops. It is time a different plan should be adopted, if we expect to derive that advantage from our farmers, which they will afford by a proper cultivation. This must be effected by giving the ground a full dressing of 20 large cart loads of good manure to the acre, every seven or eight years; and adapting a rotation of productive crops during that period. In this system, clover is absolutely necessary, as forming the basis of the whole, and without which, no valuable plan of agriculture can be pursued. Clover, well put in, and having a top dressing of Plaster of Paris, six bushels to the acre, will afford, the first year, three tons of good hay to the acre; the second year, it may be cut once, and afterwards pastured to the middle of October; the third year it will afford excellent pasture to our hogs, sheep, and

milk cows, during the summer. In the month of September, it may be ploughed, and immediately sowed with winter barley, and afterwards with wheat, or other grain, as best suits the inclination, or the interest of the farmer. A plantation, properly divided into fields, for such a rotation of crops, would annually afford a sufficiency of hay, pasture, and a variety of the most useful and profitable crops, without leaving a single acre of ground unproductive.

Considering clover as necessary to the best plan of conducting a farm, it is the duty of every real friend to this necessary science, to promote the cultivation of it. A great obstacle to the propagation of this valuable plant, arises from the extravagant price of the seed, owing to the difficulty of cleansing it. Could this difficulty be obviated, clover seed might be sold at one half the price now demanded for it.

I beg leave to communicate to the society some information I lately received from Mr. Henry Wynkoop on this subject.—Mr. Wynkoop says, that, in the state of New-York, where they have long been in the custom of raising seed for sale, after the hay is threshed, the heads of the clover are put into a hogshead, to which is added a sufficient quantity of water to moisten the whole, in order to induce a fermentation. The farmer should carefully attend to this critical operation, and suffer the fermentation to proceed only as far as to affect the capsules or chaff, without injuring the seed. After this operation, the clover heads are spread on a barn floor to dry, when a slight threshing will easily extricate the seed. The Germans, in Lancaster county, procure the seed of timothy, by first submitting it to a slight degree of fermentation.—The hay, intended for seed, is bound in small sheaves, and then put up into a stack, having the heads damped with a little water, sufficient to produce a slight degree of fermentation, without injuring the seed.

The above plan appears to me reasonable.—I shall

therefore make a trial of it, and shall communicate the result of the experiment to the society. Other members doing the same, a comparison of our observations may tend to throw some light on the subject, and the publication of them, supported by the opinion of the society may be attended with some advantage to our fellow-citizens.

I am, &c.

GEORGE LOGAN.

AN IMPORTANT IMPROVEMENT.

The manufacture of *bar iron* (or refined iron) by means of the steam powers and rollers, ought to receive the early and effectual attention of the people of the United States. The impurities (or extraneous matter) are *pressed* out of the iron by the rollers. It is only by *compression* that the common forge hammer produces the same effect. It is said, that in South Wales 300 tons of refined bar iron are thus made at a single work in one day. This is at the rate of 93,000 tons per annum. Those who intend it, can make the best iron the ore will produce, by this method.—*Dem. Press.*

First MEETING of the MERINO SOCIETY of the MIDDLE STATES.

On Saturday, the 9th of this month, the Merino Society of the Middle States held their first stated meeting since their organization, at the farm of Mr. Caldwell, their President, near Haddonfield, in Jersey. Besides the members of this most laudable association, several farmers, proprietors, and manufacturers attended, and Count Palen, Dr. Logan, with some other gentlemen, were present as guests. Between two and three hundred full blooded Merinos, in the finest order, both of fleece and flesh, some in the open enclosures, others in separate folds, were exhibited: their appearance proving, beyond all controversy, that the soil, climate and

food of Jersey, are fully congenial with the health and excellence of this inestimable animal. A large number of those examined on the present occasion, when purchased from the importers, were feeble, pining, and more or less diseased: but the flock is now completely recruited and re-established in at least as good condition as they ever enjoyed in Spain. As the Spanish sheep improve the fleece of the sheep of England, France and other countries, to which they have been transported, there is every reason to believe, from that circumstance alone, that their amelioration will attend their establishment in the United States, and that by care and attention to preserve the breed pure, the Merino may reach the highest state of perfection in the United States. And it is certain, that Mr. Caldwell, in all his enterprizing purchases from the late importations of Spanish sheep, has never met with any equal in appearance, fineness of fleece or length of pile, to those of his own raising, his own original flock. About one hundred lambs have been the produce of this year, nearly all of which have been so far reared without accident or distemper. Reduced as Spain is, beyond all hopes of immediate reinstatement, and indeed with the moral certainty of further devastations, cut off as we are by England from French supplies of cloths, and resolved as we ought to be, ourselves, not to import from England, while she insists on monopolizing our market, accession of merino wool to the stock of American staples, is matter of the highest gratification. In a few years we may undoubtedly furnish our own consumption, and perhaps export fine wool in large quantities, as we have cotton. The factory of Messrs Dupont and Bauduy, near Wilmington, is already well advanced in its operations, on an extensive scale, and will before the expiration of this year, turn out superfine cloths of the finest and most durable fabric; and the zeal which animates almost every portion of the community, for atchieving this great measure of American independence, is the sure pledge of its early and complete success.

After visiting the various accommodations which Mr. Caldwell has arranged for the preservation and comfort of his fine flock, the company sat down between three and four o'clock, to an elegant dinner, spread in the genuine American exuberance, and passed the remainder of the afternoon in social and rational festivity—Aurora.

From the Dublin Evening Post.

OBSERVATIONS UPON LAMBS,

By Sir George M'Kenzie,

When Lambs are observed to drop on a place where they cannot easily rise they should be lifted and placed on their feet, but otherwise they may be left to themselves. They may be docked when a day or two old, which saves them much trouble when the disease called Pinding attacks them. Docking makes them appear very lively, as while they are at their frisking time of life, their stumps have commonly a rise or cock. The tail, which seems to be a useless and inconvenient appendage, need not be left longer than three inches. But this operation in the males, if pinding does not happen, should be deferred until the season for castration. Ewes which have been docked are not liable to lose their lambs by their being entangled by the tail at the birth, an accident which happens much more frequently than shepherds are aware of.

Lambs that are in health are always lively. Such as do not appear to be inclined to sport with their fellows, should be looked at, and also their dams.—Ewes which appear unkind to their lambs should be examined. In these cases something will in general be found to be wrong. Distorted, or imperfect lambs should be sold, or killed for home consumption.

Weaning.—Lambs should be allowed to suck during three months and a half, after which they may be taken up, and kept for a fortnight or three weeks at a distance

from their dams, far enough from them to prevent their bleating being heard by them. They will very soon if kept in a field with the weathers, eat grass with avidity, and will require no farther attention.

Vermin in Lambs.—In the event that lambs become troubled with vermin before smearing time, the following directions of Dr. Parr will be found useful: The *hippobos ovina*, or tick, is extremely injurious to sheep, by making the animal bite and rub itself, so as not only to hurt the fleece, but to break the skin, in consequence of which the fly is apt to fix on the wool, near the wounded part, and there deposit its egg. This troublesome animal may be, in a great measure, destroyed by pouring a solution of powdered white arsenic in boiling water, in the proportion of an ounce to a gallon, cold on the back of the sheep, and letting it diffuse itself down the skin on each side; in this method, however, several of the ticks escape by crawling to the extremities of the filaments. It will be still better to wash the lambs in the autumn, whether shorn or not, in a tub of a similar mixture. For the purpose, 3 pounds of the same arsenic powdered, may be dissolved in six gallons of boiling water, and the solution mixed with 40 gallons of cold water. The whole being then well stirred, the lambs may be plunged into it, great care being taken that they do not dip their heads or taste the water. The liquor must be squeezed out of the fleeces back into the vessels, in order that it may not be wasted. It is scarcely necessary for me to point out the poisonous quality of this liquid, and how important it is to keep the vessel locked up, and after the operations are performed, to clean it well; or rather, never use it for any other purpose: and to throw the liquid which remains, where not the smallest quantity of it can be drunk by any creature whose life we value.

EXPERIMENTS ON WOOL.

Messrs. Hazard and Tessier have been for some time trying, at Rambouillet, the result of suffering the wool to

grow for several years successively on a few sheep. Last season some of these sheep were shorn for the first time these three years. The average weight of their fleeces was 12 kilogrammes, one of them weighed 15; and this wool, which was above 3 decimetres in length, fetched 6 francs 68 centimes per kilogramme. Hence it appears, that the wool of one fleece was equal in length to three others together, and that it produced a larger sum. With this kind of wool M. Delarue has manufactured very beautiful casimers, for which he obtained a medal at the exposition of the productions of national industry.

BOSTON, OCT. 4.

A NOVEL PROCESSION.

At the *Berkshire Cattle Show* in Pittsfield last week, a procession was formed on the public square & proceeded through the principal streets in the following order:

Sixty yoke of prime Oxen, connected by chains, and drawing a plough held by Charles Goodrich, Esq. and Mr. Nathan Fairfield, being the two most aged Farmers present.

Farmers of the Country carrying a Flag representing a sheaf of wheat on one side, and a plough on the other.

A large stage drawn by oxen, carrying on it a large Broad Cloth Loom, with a flying shuttle and a spinning Jenny of 40 spindles—both of these machines in actual operation by skilful workmen.

Mechanics of the country, carrying a Flag representing a ram on one side, and a shuttle on the other.

A large stage drawn by Horses, carrying on it various specimens of Berkshire Manufactures, amongst which were a number of rolls of Broad Cloth, rolls of Sail Duck, handsome Rose Blankets, Muskets, &c. with the Flags of the U. States and of this Commonwealth, diplayed on it.

Officers and members of the Berkshire Agricultural Society, with heads of wheat (being the badge of the society) in their hats.

The whole was attended and regulated by the marshal of the day on horseback, [Mr. Sheriff Larned] together with four deputy marshals, all mounted on white horses, and carrying the badges of their office. The members of the Pittsfield band of music accompanied and enlivened the procession.

A number of premiums were awarded by the Berkshire Agricultural Society according to previous regulations.

The society have also resolved to pay certain premiums upon household manufactured woollen cloths, to be exhibited in January next.

TURNPIKE ROADS.

The unproductiveness of turnpike stock arises from the very great expence originally incurred in the formation of the roads and from the constant large disbursements requisite to keep them in repair. As to the first item, although I believe there might generally be great saving made, yet I shall for the present wave any examination of that part of the business, and confine myself wholly to the repairs.

I venture to suggest a plan by which this grand object might be effected, at, probably, less than half the present expence. Perhaps I deceive myself, as most projectors do, and overrate the advantages of my scheme. Of this the public will judge.

Although it is very unfashionable to cite proverbs, yet I cannot resist the temptation to take one as my text. It is homely and housewifely, but contains a vast deal of sound sense—*A stitch in time saves nine*. This is applicable to all human affairs, and to none more than the present subject of discussion.

According to the prevailing system, when a road is finished, all concern of it is abandoned, till it has become so completely damaged, as to call loudly for the most expensive repairs. This is the radical error, which creates vortex to swallow up so large a portion of the tolls.

Instead of this wretched mode, I propose that the roads be divided among a certain number of persons, hired at moderate wages, whose duty it shall be to examine their part respectively every day, and to repair any spot that may require it, as soon as it is damaged, tho' ever so slightly.

I am not prepared to say what extent of a road each individual might be able to keep in good order. But I am strongly inclined to believe, if there were deposits of stone and gravel placed at suitable distances, that an industrious man, provided with a cart, yoke of oxen, rolling stone, and all the other necessary apparatus, would find little difficulty in attending to 8 or 10 miles. This, however, is a point on which experience alone can determine correctly.

That this management would produce a vast saving to the parties concerned, and render turnpiking much more lucrative, I feel the fullest confidence.

The neglect of the side or summer roads, is another capital error. They can be preserved in good order or repaired, at a much less expense than the turnpikes. And it is so much more pleasant to travel on them, and so much less destructive to horses' shoes, as well as to the tire of wheels, that when they are fit for travelling, they are almost exclusively used.

During eight months of the year, the summer roads might be kept almost constantly in repair, at a very small expence. This would very much diminish the use, and consequently the destruction of the turnpike. The summer road is very soon damaged. Four or five carriages of burden passing immediately after or during a heavy fall of rain, make a rut, wherein the rain lodges. It is constantly encreasing till the road becomes somewhat impassible. It is then shunned, and the turnpike alone is travelled. Hence it is not an extravagant calculation to suppose that the expense of keeping the turnpikes in repair in certain places, where the summer road is generally bad, is a third more than would be necessary under proper regulations.

If the summer roads be easily damaged, they are likewise, as I have said, easily mended. A little labor, seasonably applied, would, after the rain has been evaporated, repair even the worst places. It should be the duty of the persons of whom I recommend the appointment, to pay prompt attention to these roads as soon as the weather clears up; to fill up all ruts, and to run the rolling stone over the whole, so as to invite the travellers back to the use of them. This is a stitch in time.

One word more. I am informed by men of experience and skill, that when the stones used in making turnpikes are of different degrees of hardness, they wear each other out, and the road is not by any means so durable, as when they are all of the same kind. — *Port Folio*.

* CINCINNATI, October 9, 1811.

By the politeness of a Swiss gentleman, residing at Vevay, Indiana Territory, we have been favoured with the following sketch of the Swiss settlement:

NEW SWISSERLAND,

Is situated on the right bank of the Ohio river, in Jefferson county, Indiana Territory, about seven miles above the mouth of the Kentucky river. This settlement was begun in the spring of the year 1803 by some Swiss of the Canton of Vaud, formerly a part of the Canton of Bern. Their principal object is the introduction of the culture of the Grape Vine in this country. This settlement, or rather the place called New Swisserland, extends from about three quarters of a mile above the mouth of Plumb creek, down the river to the mouth of Venoge creek, known by the name of Indian Creek,* a distance of about four miles and a half, fronting the river, and

* On account of the great number of creeks in the United States called by the name of *Indian*, the Swiss, who own its mouth, have thought proper to alter its name to that of *Venoge*, a small river in the Pays de Vaud, on the banks of which some of the Swiss spoken of here were raised.

extends back for the quantity of about 3,700 acres of land—2500 of which they have purchased under a law in favour of J James Dufour and his associates, allowing them twelve years to pay for it from 1802, the time of the purchase ; the remainder they have bought as other purchasers, and paid for it.

The lower end, about two miles along the river, is occupied by 13 Swiss families, containing 66 individuals, of every age—10 of those families have successively come to join the three first, who had began the settlement. Had it not been for the difficulties in crossing the ocean, it is believed the whole distance of four and a half miles would have been filled up with as many more of those industrious people.

The improvements of the Swiss are considerable, considering the time when they began, the few hands employed in them, and their inexperience in the way of improving lands in this country. They have now about 140 acres in cultivation, about 8 of which are planted in grape vines, now bearing ; which offer to the eye of an observer the handsomest and the most interesting agricultural prospect perhaps ever witnessed in the United States. There are about 8 or 9 acres more planted in vines, which are not yet bearing ; and they continue planting more every year. The crop of wine of 1810 has exceeded the quantity of 2400 gallons, the quality of which has been thought, by judges of wine, superior to that of the claret of Bordeaux. Out of the quantity, about 120 gallons were white, or yellow wine, made out of the Madeira grapes. These two kinds of vines are the only ones which have hitherto succeeded, but others are going to be tried ; and it is very probable that some of them will also produce good wine. When the vines are older, and the vine dressers are able to let their wine acquire age before they sell it, the quality will certainly be greatly superior to what it is now ; and there is no doubt that in the course of a number of years, the United States will be able to do without *imported* wine. The precious culture of the vine will be tried in different parts of the Union, and will un

doubtedly multiply with rapidity. The Swiss will encourage it with all their power ; they give vine slips gratis to whoever will plant them, with directions and instructions for their cultivation.

The Swiss also cultivate Indian corn, wheat, potatoes, hemp, flax, and other articles necessary to farmers, although in small quantity.—Some of their women make *Straw hats*, which they sell in Cincinnati, and on the river, to trading boats, which usually stop there to purchase them, to carry to the Mississippi country, where they are very ready sale. They are made quite different from the other straw hats, by tying the straws together, instead of plaiting and sewing the plaits. One of Mr. F J Dufour's sisters first brought the art to this country, from Switzerland.

As the Swiss enlarge their vineyards every year more and more, their settlement will become of greater consequence to the United States, not only in producing good and wholesome wine, but also in being a model for those who may establish new vineyards in other parts of this continent, which may be found suitable for their culture.

New Switzerland has the advantage of two roads—one is a fork from the road leading from Lawrenceburg to Port William, taking off to the right about one mile and a half before arriving at Venoge, or Indian creek, and leads to Dufour's ferry ; opposite is a road leading to Frankfort and Lexington, Kentucky. The other leads from the upper end of Jefferson county, down to Madison, all along the river. There is a post Office, by the name of Vevey, which is the name of the town intended to be shortly laid off, for the accommodation of mechanics.

(*Liberty Hall*

IMPORTANT TO FARMERS.

Hessian Fly.—Mr. William Armistead has discovered and proved by *many experiments*, that the immersion of seed wheat in water a few degrees short of boiling heat, destroys the knits in the wheat, which if sown would

grow up with it and destroy the crop. Some insect deposits its eggs in the growing wheat, and these produce the knits. Mr. Arnistead has obtained a patent for the discovery of this simple remedy, which is published in a small pamphlet.

Extract. 'The most practical and expeditious method of preparing the grain for seeding, is, to have a large boiler or pot, and when the water is boiling remove it from the fire till the boiling heat is a little abated, when with a large basket containing the grain dip it in, and suffer it to remain till an equal degree of heat is communicated to all the grain—then empty it on a floor—fill it again, and thus by repeated applications, make the same water answer until it requires to be heated again, always rolling it in plaster, if to be had before it is sown'

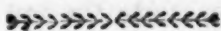
American Watch Tower

From the Fredericksburg Herald.

Messrs. GREEN & CADY—From a small excursion into the country, I have collected the following precious intelligence. The Hessian Fly, whose ravages have often blighted the fairest prospects of the farmer has been traced to its origin. Its extermination from wheat fields is not more difficult than the labour of heating water in which the grain is to be immersed before sowing. The boiling water destroys the egg which is deposited in the grain whilst in a state of immaturity.—The following fact will be attended to.

Judge Holmes, of the neighbourhood of Winchester, in July last, sowed 20 acres of land with wheat, 18 acres of which were sowed from wheat that in a basket had been dipped into boiling water—two acres immediately contiguous were sowed from the same bulk, at the same time, & on the same sort of ground. The external appearance of the 18 bushels and the 2 bushels, was the same, being equally luxuriant, but upon examination, it was found, that whilst the wheat from the 2 acres had scarcely a spire unassailed by the insect, the 18 acres remained untouched,

The importance of this communication to the agricultural world, leaves with me no doubt, that not only yourselves, but all printers in the union, will give currency to an experiment sanctioned by the high authority already mentioned.



From the Long Island Star.

INTERESTING TO PRINTERS.

We ave the satisfaction to inform the printers of the northern and eastern section of the United States, of the establishment of a Manufactory of Printing Presses in the city New-York, by Mr. Francis Shield, from London. Mr. S. has made two common presses since his arrival, one of which is in the office of the Long Island Star.* They are highly approved by the best judges and have never been exceeded, if equalled, by any manufactory in our country.—Mr. Shield likewise makes very neat and accurate chases, composing-sticks, rules, &c.

The improvements in the printing press made by Earl Stanhope, (which is now getting generally into use in England) are but little known in this country. They are detailed in Stower's Printer's Grammar, published two or three years since. The press is entirely of cast iron; the platten covers a whole sheet, which is impressed at one pull; the increase of power is such, that the strength of a child is sufficient for the heaviest form; they are entirely detached from the sides of the room, the lightness of the pull not requiring a brace, and they take up much less room than the common press. We have never heard of more than two of these presses being brought into the U. States, one of which is now owned by Messrs Bruces of New York. This press is imperfect in some of its parts; but enough may be seen to satisfy any printer, that the principle is correct, and a very great improvement.

* The other is one on which the *Columbian* is now printed, and is the largest and probably the best in America.

Mr. Shield is also in possession of the art of taking Stereotype Plates, and has specimens in his possession. A particular account of this art may be seen in the book above mentioned. His manufactory is, at present, at No. 14 Beekman-slip; but a new building is now erecting in First street, to prosecute the business on a more extensive scale.—Orders, post paid, are received by Mr. John Tiebout, No. 238, Water-street.

We are happy to add to the above, the interesting information, that the Type Foundry of Messrs. White and Co. of Hartford, Conn. is shortly to be removed to New York—we may therefore expect the printers of this section of the union, to be less subjected to impositions than heretofore. This foundry has recently produced type of a peculiarly beautiful cut, and well adapted to service. New-york, we may confidently expect, will soon rival her sister cities in these first of all arts.

We should not omit to mention, that a Printing Ink Manufactory has been some time established by Mr. R. Prout, No. 278, Greenwich street, who makes Ink of the best quality.

GLASGOW, Sept. 25.

We are delighted at the progress of improvements in machinery and manufactures—and anticipate much from the skill, industry, and patriotism of our citizens to carry cotton and woollen manufactures to perfection. We yestreday had the pleasure of seeing a piece of muslin at Mr. Harden's store, which was *woven by a water loom* at the new Factory of Messrs. Leverings, & Co. it seems in every respect well executed. Since no doubt remains of the capacity of our manufactories to spin and weave ample supplies of *cotton* goods, we trust that they will be protected by a patriotic government, by the exclusion of all foreign cottons. As woollens must advance more slowly, we hope bounties or premiums may be held out to manufacturers. *Balt. Whig.*

PROPOSAL—"PRO BONO PUBLICO."

It is the wish of many gentlemen in Baltimore, desirous of encouraging homespun goods, That some *capable tailor* would establish an extensive shop or manufactory, *consisting entirely of home made cloth, buttons, &c.* obtained from any part of the United States. The *certainty* and *facility* of procuring a suit of American clothes would induce many to bestow their custom on such an establishment, would promote domestic manufactures,—bring an industrious tailor a fortune, and gratify a patriotic *American* feeling.

PROCESS OF MAKING CIDER.

FROM DUCOMB'S HISTORY OF HEREFORDSHIRE.

Published by request of the Connecticut Agricultural Society.

The merit of cider will always depend much on the proper mixture, or rather on the proper separation of the fruits; those whose rind and pulp are tinged with green or red, without a mixture of yellow, should be carefully sorted from such as are yellow mixed with red. —The latter kind which should remain on the trees until ripe enough to fall without being much shaken, are alone capable of making fine cider. Each sort should be collected separately, and kept till it becomes perfectly mellow. For this purpose it is the common practice to place the fruit in heaps, about a foot in thickness, fully exposed to the sun, air and rain; being never covered except in very severe frosts. Each kind should also be ground separately, or mixed with such only as become ripe at the same time; but it is from the former practice that fine ciders of different flavours & degrees of strength, are obtained from the same orchard; the liquors being mixed after made. The practice of mixing different varieties of fruit is, however, often found eligible, for it is less difficult to find the requisite quantities of richness,

astringency, and flavour, in three varieties of fruit than in one ; and ciders composed of the juice of mixed fruits generally succeed with greater certainty than those made of one kind.

In grinding, the fruit should be reduced as nearly as possible, to an uniform consistency, so that the rind and kernels are scarcely discoverable from the general mass. It should be ground slowly, with free access of air.

When the fruit has been thoroughly ground, the reduced pulp should remain twenty-four hours before it is taken to the press ; a large quantity of juice will then pass through the hair cloths used in passing, and this is to be deposited in casks, not quite filled, and situated in the open air. The first fermentation to which the liquor is subject, is the vinous ; the second, if not checked or prevented, is the acetous, the third, the putrefactive. The great object, therefore, of the cider maker, is to watch the first operation, by which some of the impurities are floated on the surface, but most of them sink to the bottom ; the fine part is then carefully drawn off into another vessel. All farther fermentation is to be avoided ; and, on an appearance of it, small quantities are drawn off into open tubs, & returned to the main body in a state of flatness.—The first fermentation, if the weather be cool or frosty, will generally be completed within a few days—and if the first opportunity of drawing it from the less be neglected, a change of weather, or other circumstances, may render it again impure in a very short time ; the brightness of the liquor is therefore the best criterion to decide the proper period of racking. The casks should want four or five gallons to complete their fulness, and having remained in the open air until fully wrought, they should then be completely filled, & the bungs be fixed, which until now have only been placed loosely in their situation. Ciders, thus manufactured from good fruits, will retain a considerable portion of their sweetness to the end of three or four years, when it is gradually lost.

ON THE APPLICATION OF CHEMISTRY TO AGRICULTURE
AND RURAL ECONOMY.

[By A. FOTHERGILL, M. D. F. R. S. Bath.]

Hæ tibi erunt artes.....VIRG. ÆNEID, Lib. vi.

Vere scire est per causas scire.....VERULAM.

AGRICULTURE is undoubtedly the most ancient and honourable of all the arts, since it dates its origin from the highest antiquity, and appears to have been coeval with the first parents of the human race. Though it has received all the improvements of a long succession of ages down to the present time, whence is it that its progress towards perfection has been much slower than that of many others of a far more modern date?—The chief causes which have retarded its advancement, seem to be the three following:—

First, The extreme difficulty of the study of Agriculture.

2nd The want of proper Masters to unfold its principles, as in other branches of Experimental Philosophy.

And,

3d. The great reluctance of Farmers to quit the beaten track.

So complex is the study of Agriculture, that it involves a multiplicity of objects of the most abstruse and recondite nature, which never can be thoroughly understood without a previous knowledge of many other arts, and particularly of Chemistry. And yet this important science has been uniformly committed to the sole management of the illiterate part of mankind. These being unable to learn, for want of persons qualified to teach, have obstinately pursued a routine of random practice, in imitation of their forefathers, without any settled principles. Innumerable errors have thus been transmitted from one

generation to another, under the fallacious appearance of being the result of long experience. Can we wonder then that the theory and practice of agriculture are yet far, very far, from having reached the summit of perfection? Chemistry indeed has not till of late years been applied to agriculture and economical arts, though the principal operations of each evidently depend on chemical principles.

It is not to be expected that every husbandman should be a profound chemist; but I will venture to say, that every gentleman who wishes to improve his estate, and to advance the art of agriculture, ought to be well versed, at least, in the principles of philosophical chemistry; without which he can neither conduct experiments properly, nor explain the several phenomena satisfactorily, which result from them.

The uses which chemistry may be of, in agriculture, are great and extensive, but my present bounds will only permit me briefly to mention a few of them.

To this art it belongs, to distinguish the sundry kinds of earth, according to their natures and proportions;—to determine which of them are the fittest for different purposes; to ascertain the different qualities of the various sorts of manures, and to point out proper methods of applying them;—to discover the best method of improving a barren soil;—to effect by a suitable mixture of earths, what is not to be accomplished by manure alone.

The earths which most commonly occur are clay, sand, and calcarious earth, none of which alone is adapted to the support of vegetables. Hence in a good soil, they are therefore generally found mixed, at least two of them, together with a portion of decayed vegetable substances.

Clay retains moisture the best; after clay, calcarious earth; sand dries rapidly. Hence it follows, that from the different proportions in which they are mixed, result so many different capacities for retaining water. Hence too the inferior as well as superior strata of the soil

ought to be examined, as well as the mean state of the weather with respect to drought or moisture, and opportunities of watering, &c. For the best soil will prove sterile without a due proportion of moisture.

To render land capable of producing a small crop of grain, requires no great skill; but to cause it to yield the greatest possible crop, demands no common management. Is it not disgraceful to behold the execrable husbandry which prevails in some parts of this opulent country, where it is no unusual thing to see corn and weeds struggling together for the superiority, till the latter, gaining the ascendancy, stifle the meagre crop, and spread triumphantly over all the neighbouring grounds!

To chemistry it appertains to suggest suitable means for preserving grain from smut, blights, or mildew; also for destroying, or driving away insects, reptiles, and other noxious vermin, which are wont to prey on fruits, seeds, or vegetables.

When the products of agriculture are at length obtained, the aid of chemistry is still essentially necessary towards their preservation, and the means of fitting for the various purposes to which they are destined.

Grain, and farinaceous vegetables, are convertible into flour, bread, starch, malt, &c. In proportion to the saccharine matter contained in them, they become subjects of the vinous and acetous fermentation, and hence the operations of baking, brewing, the making of wine, cyder, vinegar, &c. are so many chemical processes; which, for want of the requisite stock of knowledge, in many cases either fail altogether, or are carried on with little advantage.

The preparation of flax and hemp for sundry uses, and the operation of bleaching and whitening linen; also of preserving wood from putrefaction, and preparing other vegetable productions for various economical purposes, depend all on chemical principles.

The productions of the animal kingdom afford a variety of raw materials which enrich the farmer, and which by suitable management constitute no inconsiderable share of the national wealth. Such as meat, eggs, milk, butter, cheese, honey, wax, tallow, hides, &c. All which, by chemical art, may be preserved in a sound state for a considerable length of time, or even sometimes restored, in a great measure, after corruption has begun to take place. They may also be further improved, and converted to a variety of economical uses to the highest advantage, if their chemical properties are properly understood.

An eminent author has very justly observed, that the application of chemistry to arts and manufactures, is an object of a very interesting and extensive nature; because many of them consist of a series of chemical process from beginning to end, others only in certain stages, the rest being performed by mechanical operations. Though arts and manufactures might owe their origin to chance, or random experiments, yet the improvement and perfection of them must ultimately depend on certain facts, and principles, which it is the province of chemistry to illustrate and explain.

Private interest indeed has long checked the progress of the arts, and selfishly monopolized the most lucrative employments, by casting a veil of secrecy over the different processes; but chemistry assists us in drawing aside the veil, and oftentimes too in accomplishing the end, by more simple and efficacious means.

In short, from the foregoing observations it appears, that both in public and private manufactories, and various articles of rural economy, a multitude of operations are continually going on, which undoubtedly depend on chemical principles. It were therefore earnestly to be wished, that an accurate inquiry into the present state of the arts throughout the kingdom were to be undertaken, and repeated at certain intervals, with a view towards their improvement. This would supply many curious facts, which before were not known, except in manufac-

tories. Chemistry in its turn would unfold the principles on which the various operations are founded, concerning which even the artists themselves are generally observed to be grossly ignorant.

It seems evident, that no material change can be wrought in bodies, but either by separating something from them, or combining something with them; but it is by chemical attraction, that both separation and combination are performed. Consequently it is from the accurate knowledge of chemical laws, that the clearest lights, and ablest assistances, are to be obtained.

Knowledge, says the illustrious VERULAM, is incomplete, and scarcely deserves the name, unless it enables us to explain the several phenomena. Is it not surprising then, considering the rapid progress which chemical science has been making for some years past, that its professors have not till very lately pointed out its applications to the improvement of agriculture, and rural economy? The late ingenious Dr. LEWIS, in his *Philosophical Commerce of the Arts*, suggested many useful hints towards the improvement of various arts and manufactures by chemical inquiries: And it is much to be regretted, that these have not been pursued, and extended by his successors, with a particular reference to agriculture.

A course of lectures on this plan, delivered in a plain, familiar stile, would be a great national acquisition, and convey the most interesting information to various ranks of men, and particularly to the country gentlemen, the intelligent farmer, and curious artizan. Few there are, it is hoped, but will readily spare a portion of the time that is generally devoted to the bottle or the chase, to partake of so useful, so elegant an amusement.

A. FOTHERGILL.

Walcot Parade, Bath, Oct. 19, 1785.

From the Hagerstown Gazette.

We are happy to have it in our power to announce to the public that there is now every reason to expect

that the important improvements of the Antietam navigation will shortly be completed.

The Potomac Company have agreed to make the Antietam navigable, from the Pennsylvania line to the mouth of the creek, for boats carrying 120 barrels of flour, and to keep the same in repair without charging any toll upon the creek, but only such tolls as are now received at the Great Falls of Potomac, upon condition that those interested will advance the company 20,000 dollars, for which sum they agree to pay 6 per cent interest annually, until the whole principal is returned; and pledge the tolls received at the Great Falls, on all boats coming out of the Antietam, for the discharge of the interest and reimbursement of the principal.

Subscription papers, in order to raise the \$20,000, are now in circulation and rapidly filling up, so that no doubt is entertained of the necessary sum being furnished to the company. By this measure, one of the greatest internal improvements which have been effected in this or any other country will be completed without any loss or sacrifice whatever, and afford to the inhabitants of Washington & Franklin counties, facilities of carriage and choice of markets unequalled in any part of the U. States, which given to the advantages they already possess in the fertility of their soil and central situation, will render property in these counties truly desirable. A deputation from the Potomac Company, accompanied by a very skilful engineer, who have surveyed the Antietam, are clearly of opinion that the sum above mentioned, is adequate to the completion of the said navigation by means of locks in a permanent and easy manner; but should more be necessary, the Potomac Company agree to furnish it.

CANALS, &c.

The New York Commissioners, appointed on the business of the proposed canal from the lakes to the Hudson river, have addressed a letter to the governor of

Maryland, to be laid before the legislature—requesting aid in one shape or other to effect the great work—and this aid would be acceptable either in appropriations of money for loan or gift, or in the influence in their behalf of our delegation in congress, it being wished that the canal be cut at national expence, as its benefits should be national. The N. Y. commissioners who sign this letter are Gov. Morris, Dewit Clinton, Simeon De Wit, W. North, Thomas Eddy, Robert Livingston, Robert Fulton.

MARYLAND AFFAIRS.

The attention which other states pay to their land and water communications, ought to draw our thoughts particularly to our own. At present, we barely suggest, whether the legislature might not promote the general prosperity of this state very much by extending the western turnpike to Cumberland at the public expence? or by renummerating the company for their cost, cancelling their charter (as they would doubtless cheerfully agree to,*) and throw the roads and gates open to all, free of charge and toll? Many reasons might be assigned for a measure so spirited, politic and just—but we only mention the subject at present, to induce the public to consider it. We are not blessed with half so many natural advantages (of soil, &c. &c.) as Pennsylvania and New York—there is therefore the greater necessity for making the most of our resources, by opening a cheap communication westward, and by doing every thing reasonable, to improve agriculture and manufactures, to extend knowledge, to simplify law proceedings, or to authorize an experiment on the rational and christian mode of settling civil disputes by arbitration.

BALT. WHIG.

* A good turnpike road is finished from Baltimore to Boonsborough, about 61 miles; but there is no likelihood that it will be extended farther by the Company, who have lost much by the work.

For the Agricultural Museum.

ON ROTATION OF CROPS.

In perusing the Agricultural Museum, No. 12, Franklin's letter took my attention, especially in regard to rotation of crops, which I believe to be highly necessary, in some degree.

In the first instance, I would investigate, whether grain or fruit does not extract more of its taste and quality out of the air, than out of the earth.

If we engraft a sweet apple on the sourest stock, it produces fruit of the nature of the graft, and the identical nourishment drawn from the earth, that would have produced sour fruit, is by the air converted into sweet; and the most poisonous herbage may grow on the most aromatic shrub.

But we presume that some of the quality of the fruit is drawn from the earth, because, if we take a scion from a graft, it will partake in some degree of the nature and quality of the stock it was engrafted into.

Then, if the quality of the grain or fruit is determined by the air, it will follow, that rotation of crops is not so essential, further than I shall observe.

From what observations I have made, I do not think any other change necessary than from tillage to grass of any kind, that may be found most congenial to the soil. Clover and timothy are to be preferred on all light soils. Clover enriches the soil, and timothy combines the loose particles of earth, and preserves the best of the soil from being washed away by heavy rains.

From many experiments that I have made, I shall select one.—I had a large garden, the soil naturally a heavy loam; it had been long cultivated as a garden, and became so heavy that it was uncomfortable tending—so, in the spring of the year, I ploughed it up, and sowed flax, clover and timothy seed; and the spring following I plastered it, and mowed excellent crops of grass off it for two years. I then ploughed it again, and found the soil completely changed to a light and pleasant tillage, and much more productive than before.

And from many observations that I have made, I am induced to believe, that the earth will produce wheat continually, without any other rotation of crops than grass, in order (if I may be allowed the expression) to give the earth a time for rest and perspiration.

ASHER FOULKE,

EXTRACTS

From Watson's Address, delivered before the Berkshire Agricultural Society, on the 24th September.

"By a fortunate accident I have been enabled to introduce into this country, a new species of WHEAT, lately brought from France. Also POTATOES, of a peculiar and superior kind, which promise to be of general utility. In the course of the winter, I shall deposit some of each with the Recording Secretary, to be delivered to the corresponding members of each town in the county.

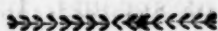
"I am also successfully cultivating the article of Madder, an important dye-stuff, heretofore imported from Europe—although natural to our climate, and easily cultivated. I shall be enabled in the spring to supply a considerable quantity of sprouts, to go in the same direction, for their general cultivation.

"There is one other important article of the same nature, worthy of our attention—it is called by the English Woad, and by the French Pastel. It is a plant in its nature like Indigo, and perfectly congenial to our climate, since its culture formerly enriched the province of Languedoc, in France, which lies above a degree farther north than we—it produces a brilliant and durable blue; and it is said, by the aid of chemistry, two other colours may be drawn from it.

"I am also happy to inform you, that an important species of Rye has lately been introduced into Pennsylvania from France, by general Armstrong: it was bro't into that country from Upper Egypt; the grain is large,

remakably white, and weighs 60 lbs. to a bushel. It is found to answer, in Pennsylvania, both as a summer and winter grain—succeeding best, however, as the last. I have strong hopes, although in a single hand, of obtaining some of it to commence its culture this season, so as to be enabled to spread it in a manner already mentioned. This object alone bids fair to be of infinite importance, to reward us for all our future toils, and to supply the defects of winter wheat, should it succeed better.

A singular but unfounded prejudice existed in England, and now in this country, that the meat of the Merinoes is bad. Several of the most eminent writers and breeders of sheep in England and America, have fully established the contrary position, and it is time the good people of Berkshire should know the truth. Lord Somerville says, it arises from the fact, that Madrid, the capital of Spain, is supplied with mutton from Barbary, and that the Merinoes are merely kept for their wool; but when put in good pasture they fat easier than other sheep, especially the mixed breed; that their meat is higher flavored, and the fat resembling that of venison. This is also stated by other eminent writers; and I know the fact, from my own experience, as respects the mixed breed."



CHEAP AND EARLY PASTURE.

I have long wished our farmers that have experience, were more willing to let it be made public, for more general use. Of this kind is *Winter Barley*, sown early on good ground, and better if manured some. For those who wish to raise calves, sheep or swine, or make butter, at the season when green herbage is most wanted, it affords a most plentiful supply of the very best kind, will bear to pasture all winter, and till the last of April. I have a good crop if the season is favorable: It will amply compensate the expence when sown on land that is to be planted in Indian corn every year. And how small the expence when compared with the advantage.—Z. *F. Spectator.*

F. Spectator.